

73. (New) The peptide of claim 71, which is fused to a T helper peptide.
74. (New) The peptide of claim 71, which is fused to spacer or linker amino acids.
75. (New) The peptide of claim 71, which is fused to a carrier.
76. (New) The peptide of claim 71, which is linked to a lipid.
77. (New) A fusion protein comprising the peptide of claim 71.
78. (New) A homopolymer of the peptide of claim 71.
79. (New) A heteropolymer of the peptide of claim 71 and a different peptide.
80. (New) A composition comprising the peptide of claim 71 and a carrier.
81. (New) A pharmaceutical composition comprising the peptide of claim 71 and a carrier.
82. (New) A composition comprising the peptide of claim 71 and a liposome.
83. (New) A vaccine comprising the peptide of claim 71 and a physiologically acceptable diluent.
84. (New) A composition comprising the peptide of claim 71, and one or more second peptides.
85. (New) The composition of claim 84, wherein said peptides form a fusion protein.
86. (New) The composition of claim 84, which comprises a carrier.
87. (New) A pharmaceutical composition comprising the composition of claim 84 and a carrier.

88. (New) The composition of claim 84, which comprises a liposome.
89. (New) A vaccine comprising the composition of claim 84 and a physiologically acceptable diluent.
90. (New) The composition of claim 84, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:
- VLAEAMSQV (SEQ ID NO:14422)
 - ILKEPVHGV (SEQ ID NO:14427)
 - EVNIVTDSQY (SEQ ID NO:14457)
 - FRDYVDRFY (SEQ ID NO:14458)
 - VIYQYMDDL Y (SEQ ID NO:14459)
 - VTVLDVGDAY (SEQ ID NO:14460)
 - IYQEPFKNL (SEQ ID NO:14461)
 - TYQIYQEPF (SEQ ID NO:14463)
 - RYLKDQQLL (SEQ ID NO:14466)
 - KVYLAWVPAHK (SEQ ID NO:14439)
 - KIQNFRVYYR (SEQ ID NO:14440)
 - MTKILEPFR (SEQ ID NO:14441)
 - AIFQSSMTK (SEQ ID NO:14442)
 - VTVYYGVPVWK (SEQ ID NO:14445) and
 - QMAVFIHNFK (SEQ ID NO:14438).
91. (New) The composition of claim 90, wherein said peptides form a fusion protein.
92. (New) The composition of claim 90, which comprises a carrier.
93. (New) A pharmaceutical composition comprising the composition of claim 90 and a carrier.
94. (New) The composition of claim 90, which comprises a liposome.

95. (New) A vaccine comprising the composition of claim 90 and a physiologically acceptable diluent.
96. (New) The composition of claim 84, wherein said one or more second peptides is less than 15 amino acids in length and comprises the oligopeptide QVPLRPMTYK (SEQ ID NO:14446).
97. (New) The composition of claim 96, wherein said peptides form a fusion protein.
98. (New) The composition of claim 96, which comprises a carrier.
99. (New) A pharmaceutical composition comprising the composition of claim 96 and a carrier.
100. (New) The composition of claim 96, which comprises a liposome.
101. (New) A vaccine comprising the composition of claim 96 and a physiologically acceptable diluent.
102. (New) The composition of claim 84, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:
SLLNATDIAV (SEQ ID NO:14293) and
KLTPLCVTL (SEQ ID NO:14432).
103. (New) The composition of claim 102, wherein said peptides form a fusion protein.
104. (New) The composition of claim 102, which comprises a carrier.
105. (New) A pharmaceutical composition comprising the composition of claim 102 and a carrier.
106. (New) The composition of claim 102, which comprises a liposome.

107. (New) A vaccine comprising the composition of claim 102 and a physiologically acceptable diluent.

108. (New) An isolated peptide less than 15 amino acids in length comprising an oligopeptide selected from the group consisting of:

EVNIVTDSQY (SEQ ID NO:14457)
VIYQYMDDL Y (SEQ ID NO:14459)
VTVL DVGDAY (SEQ ID NO:14460)
IYQEPFKNL (SEQ ID NO:14461)
TYQIYQEPF (SEQ ID NO:14463)
KVYLA WVPAHK (SEQ ID NO:14439)
KIQNFRVYYR (SEQ ID NO:14440)
MTKILEPFR (SEQ ID NO:14441)
AIFQSSMTK (SEQ ID NO:14442) and
QMAVFIHNFK (SEQ ID NO:14438).

109. (New) The peptide of claim 108, which is 11 amino acids in length.

110. (New) The peptide of claim 109, which is 10 amino acids in length, wherein said oligopeptide is selected from the group consisting of:

EVNIVTDSQY (SEQ ID NO:14457)
VIYQYMDDL Y (SEQ ID NO:14459)
VTVL DVGDAY (SEQ ID NO:14460)
IYQEPFKNL (SEQ ID NO:14461)
TYQIYQEPF (SEQ ID NO:14463)
KIQNFRVYYR (SEQ ID NO:14440)
MTKILEPFR (SEQ ID NO:14441)
AIFQSSMTK (SEQ ID NO:14442)

VTVYYGVPVWK (SEQ ID NO:14445) and

QMAVFIHNFK (SEQ ID NO:14438).

111. (New) The peptide of claim 110, which consists of an oligopeptide selected from the group consisting of:

IYQEPFKNL (SEQ ID NO:14461)

TYQIYQEPF (SEQ ID NO:14463)

MTKILEPFR (SEQ ID NO:14441) and

AIFQSSMTK (SEQ ID NO:14442).

112. (New) The peptide of claim 108, which is fused to a T helper peptide.

113. (New) The peptide of claim 108, which is fused to spacer or linker amino acids.

114. (New) The peptide of claim 108, which is fused to a carrier.

115. (New) The peptide of claim 108, which is linked to a lipid.

116. (New) A fusion protein comprising the peptide of claim 108.

117. (New) A homopolymer of the peptide of claim 108.

118. (New) A heteropolymer of the peptide of claim 108 and a different peptide.

119. (New) A composition comprising the peptide of claim 108 and a carrier.

120. (New) A pharmaceutical composition comprising the peptide of claim 108 and a carrier.

121. (New) A composition comprising the peptide of claim 108[✓] and a liposome.
122. (New) A vaccine comprising the peptide of claim 108[✓] and a physiologically acceptable diluent.
123. (New) A composition comprising the peptide of claim 108[✓], and one or more second peptides.
124. (New) The composition of claim 123, wherein said peptides form a fusion protein.[✓]
125. (New) The composition of claim 123, which comprises a carrier.[✓]
126. (New) A pharmaceutical composition comprising the composition of claim 123[✓] and a carrier.
127. (New) The composition of claim 123, which comprises a liposome.[✓]
128. (New) A vaccine comprising the composition of claim 123[✓] and a physiologically acceptable diluent.
129. (New) The composition of claim 123, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:

VLAEAMSQV (SEQ ID NO:14422)

ILKEPVHGV (SEQ ID NO:14427)

EVNIVTDSQY (SEQ ID NO:14457)

FRDYVDRFY (SEQ ID NO:14458)

VIIQYMDDL[✓]Y (SEQ ID NO:14459)

VTVLDVGDAY (SEQ ID NO:14460)

IYQEPFKNL (SEQ ID NO:14461)

TYQIQEPF (SEQ ID NO:14463)

RYLKDQQLL (SEQ ID NO:14466)

KVYLAWVPAHK (SEQ ID NO:14439)

KIQNFRVYYR (SEQ ID NO:14440)

MTKILEPFR (SEQ ID NO:14441)

AIFQSSMTK (SEQ ID NO:14442)

VTVYYGVPVWK (SEQ ID NO:14445) and

QMAVFIHNFK (SEQ ID NO:14438).

130. (New) The composition of claim 129, wherein said peptides form a fusion protein.

131. (New) The composition of claim 129, which comprises a carrier.

132. (New) A pharmaceutical composition comprising the composition of claim 129 and a carrier.

133. (New) The composition of claim 129, which comprises a liposome.

134. (New) A vaccine comprising the composition of claim 129 and a physiologically acceptable diluent.

135. (New) The composition of claim 123, wherein said one or more second peptides is less than 15 amino acids in length and comprises the oligopeptide QVPLRPMTYK (SEQ ID NO:14446).

136. (New) The composition of claim 135, wherein said peptides form a fusion protein.

137. (New) The composition of claim 135, which comprises a carrier.

138. (New) A pharmaceutical composition comprising the composition of claim 135 and a carrier.

139. (New) The composition of claim 135, which comprises a liposome.

140. (New) A vaccine comprising the composition of claim 135 and a physiologically acceptable diluent.

141. (New) The composition of claim 123, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:

SLLNATDIAV (SEQ ID NO:14293) and

KLTPLCVTL (SEQ ID NO:14432).

142. (New) The composition of claim 141, wherein said peptides form a fusion protein.

143. (New) The composition of claim 141, which comprises a carrier.

144. (New) A pharmaceutical composition comprising the composition of claim 141 and a carrier.

145. (New) The composition of claim 141, which comprises a liposome.

146. (New) A vaccine comprising the composition of claim 141 and a physiologically acceptable diluent.

147. (New) An isolated peptide consisting of an oligopeptide selected from the group consisting of:

FRDYVDRLFY (SEQ ID NO:14458)

RYLKDQQLL (SEQ ID NO:14466) and

VTVYYGVPVWK (SEQ ID NO:14445).

148. (New) The peptide of claim 147, which is fused to a T helper peptide.

149. (New) The peptide of claim 147, which is fused to spacer or linker amino acids.

150. (New) The peptide of claim 147, which is fused to a carrier.

151. (New) The peptide of claim 147, which is linked to a lipid.

152. (New) A fusion protein comprising the peptide of claim 147.

153. (New) A homopolymer of the peptide of claim 147.

154. (New) A heteropolymer of the peptide of claim 147 and a different peptide.

155. (New) A composition comprising the peptide of claim 147 and a carrier.

156. (New) A pharmaceutical composition comprising the peptide of claim 147 and a carrier.

157. (New) A composition comprising the peptide of claim 147 and a liposome.

158. (New) A vaccine comprising the peptide of claim 147 and a physiologically acceptable diluent.

159. (New) A composition comprising the peptide of claim 147, and one or more second peptides.

160. (New) The composition of claim 159, wherein said peptides form a fusion protein.

161. (New) The composition of claim 159, which comprises a carrier.

162. (New) A pharmaceutical composition comprising the composition of claim 159 and a carrier.

163. (New) The composition of claim 159, which comprises a liposome.

164. (New) A vaccine comprising the composition of claim 159 and a physiologically acceptable diluent.

165. (New) The composition of claim 159, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:

VLAEAMSQV (SEQ ID NO:14422)

ILKEPVHGV (SEQ ID NO:14427)

EVNIVTDSQY (SEQ ID NO:14457)

FRDYVDRFY (SEQ ID NO:14458)

VIYQYMDDL Y (SEQ ID NO:14459)

VTVL DVGDAY (SEQ ID NO:14460)

IYQEPFKNL (SEQ ID NO:14461)

TYQIYQEPF (SEQ ID NO:14463)

RYLKDQQLL (SEQ ID NO:14466)
KVYLAWVPAHK (SEQ ID NO:14439)
KIQNFRVYYR (SEQ ID NO:14440)
MTKILEPFR (SEQ ID NO:14441)
AIFQSSMTK (SEQ ID NO:14442)
VTVYYGVPVWK (SEQ ID NO:14445) and
QMAVFIHNFK (SEQ ID NO:14438).

166. (New) The composition of claim 165, wherein said peptides form a fusion protein.
167. (New) The composition of claim 165, which comprises a carrier.
168. (New) A pharmaceutical composition comprising the composition of claim 165 and a carrier.
169. (New) The composition of claim 165, which comprises a liposome.
170. (New) A vaccine comprising the composition of claim 165 and a physiologically acceptable diluent.
171. (New) The composition of claim 159, wherein said one or more second peptides is less than 15 amino acids in length and comprises the oligopeptide QVPLRPMTYK (SEQ ID NO:14446).
172. (New) The composition of claim 171, wherein said peptides form a fusion protein.
173. (New) The composition of claim 171, which comprises a carrier.

174. (New) A pharmaceutical composition comprising the composition of claim 171 and a carrier.

175. (New) The composition of claim 171, which comprises a liposome.

176. (New) A vaccine comprising the composition of claim 171 and a physiologically acceptable diluent.

177. (New) The composition of claim 159, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:

SLLNATDIAV (SEQ ID NO:14293) and

KLTPLCVTL (SEQ ID NO:14432).

178. (New) The composition of claim 177, wherein said peptides form a fusion protein.

179. (New) The composition of claim 177, which comprises a carrier.

180. (New) A pharmaceutical composition comprising the composition of claim 177 and a carrier.

181. (New) The composition of claim 177, which comprises a liposome.

182. (New) A vaccine comprising the composition of claim 177 and a physiologically acceptable diluent.

183. (New) An isolated peptide less than 15 amino acids in length, comprising the oligopeptide QVPLRPMTYK (SEQ ID NO:14446).
184. (New) The peptide of claim 183, which is 11 amino acids in length.
185. (New) The peptide of claim 184, which is 10 amino acids in length.
186. (New) The peptide of claim 183, which is fused to a T helper peptide.
187. (New) The peptide of claim 183, which is fused to spacer or linker amino acids.
188. (New) The peptide of claim 183, which is fused to a carrier.
189. (New) The peptide of claim 183, which is linked to a lipid.
190. (New) A fusion protein comprising the peptide of claim 183.
191. (New) A homopolymer of the peptide of claim 183.
192. (New) A heteropolymer of the peptide of claim 183 and a different peptide.
193. (New) A composition comprising the peptide of claim 183 and a carrier.
194. (New) A pharmaceutical composition comprising the peptide of claim 183 and a carrier.
195. (New) A composition comprising the peptide of claim 183 and a liposome.

196. (New) A vaccine comprising the peptide of claim 182 and a physiologically acceptable diluent.
197. (New) A composition comprising the peptide of claim 183, and one or more second peptides.
198. (New) The composition of claim 197, wherein said peptides form a fusion protein.
199. (New) The composition of claim 197, which comprises a carrier.
200. (New) A pharmaceutical composition comprising the composition of claim 197 and a carrier.
201. (New) The composition of claim 197, which comprises a liposome.
- 202 (New). A vaccine comprising the composition of claim 197 and a physiologically acceptable diluent.
203. (New) The composition of claim 197, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:

VLAEAMSQV (SEQ ID NO:14422)

ILKEPVHGV (SEQ ID NO:14427)

EVNIVTDSQY (SEQ ID NO:14457)

FRDYVDRFY (SEQ ID NO:14458)

VIYQYMDDLY (SEQ ID NO:14459)

VTVLDVGDY (SEQ ID NO:14460)

IYQEPFKNL (SEQ ID NO:14461)

TYQIYQEPF (SEQ ID NO:14463)
RYLKDQQLL (SEQ ID NO:14466)
KVYLAWVPAHK (SEQ ID NO:14439)
KIQNFRVYYR (SEQ ID NO:14440)
MTKILEPFR (SEQ ID NO:14441)
AIFQSSMTK (SEQ ID NO:14442)
VTVYYGVPVWK (SEQ ID NO:14445)
QMAVFIHNFK (SEQ ID NO:14438) and
QVPLRPMTYK (SEQ ID NO:14446).

204. (New) The composition of claim 203, wherein said peptides form a fusion protein.
205. (New) The composition of claim 203, which comprises a carrier.
206. (New) A pharmaceutical composition comprising the composition of claim 203 and a carrier.
207. (New) The composition of claim 203, which comprises a liposome.
208. (New) A vaccine comprising the composition of claim 203 and a physiologically acceptable diluent.
209. (New) The composition of claim 197, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:
SLLNATDIAV (SEQ ID NO:14293) and
KLTPLCVTL (SEQ ID NO:14432).

210. (New) The composition of claim 209, wherein said peptides form a fusion protein.
211. (New) The composition of claim 209, which comprises a carrier.
212. (New) A pharmaceutical composition comprising the composition of claim 209 and a carrier.
213. (New) The composition of claim 209, which comprises a liposome.
214. (New) A vaccine comprising the composition of claim 209 and a physiologically acceptable diluent.

215. (New) An isolated peptide less than 15 amino acids in length comprising the oligopeptide SLLNATDIAV (SEQ ID NO:14293).
216. (New) The peptide of claim 215, which is 11 amino acids in length.
217. (New) The peptide of claim 216, which is 10 amino acids in length.
218. (New) The peptide of claim 215, which is fused to a T helper peptide.
219. (New) The peptide of claim 215, which is fused to spacer or linker amino acids.
220. (New) The peptide of claim 215, which is fused to a carrier.
221. (New) The peptide of claim 215, which is linked to a lipid.
222. (New) A fusion protein comprising the peptide of claim 215.
223. (New) A homopolymer of the peptide of claim 215.
224. (New) A heteropolymer of the peptide of claim 215 and a different peptide.
225. (New) A composition comprising the peptide of claim 215 and a carrier.
226. (New) A pharmaceutical composition comprising the peptide of claim 215 and a carrier.
227. (New) A composition comprising the peptide of claim 215 and a liposome.

228. (New) A vaccine comprising the peptide of claim 215 and a physiologically acceptable diluent.

229. (New) A composition comprising the peptide of claim 215, and one or more second peptides.

230. (New) The composition of claim 229, wherein said peptides form a fusion protein.

231. (New) The composition of claim 229, which comprises a carrier.

232. (New) A pharmaceutical composition comprising the composition of claim 229 and a carrier.

233. (New) The composition of claim 229, which comprises a liposome.

234. (New) A vaccine comprising the composition of claim 229 and a physiologically acceptable diluent.

235. (New) The composition of claim 229, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:

VLAEAMSQV (SEQ ID NO:14422)

ILKEPVHGV (SEQ ID NO:14427)

EVNIVTDSQY (SEQ ID NO:14457)

FRDYVDRFY (SEQ ID NO:14458)

VIIQYMDDL Y (SEQ ID NO:14459)

VTVL DVGDAY (SEQ ID NO:14460)

IYQEPFKNL (SEQ ID NO:14461)

TYQIYQEPF (SEQ ID NO:14463)
RYLKDQQLL (SEQ ID NO:14466)
KVYLAWVPAHK (SEQ ID NO:14439)
KIQNFRVYYR (SEQ ID NO:14440)
MTKILEPFR (SEQ ID NO:14441)
AIFQSSMTK (SEQ ID NO:14442)
VTVYYGVPVWK (SEQ ID NO:14445)
QMAVFIHNFK (SEQ ID NO:14438)
QVPLRPMTYK (SEQ ID NO:14446)
SLLNATDIAV (SEQ ID NO:14293) and
KLTPLCVTL (SEQ ID NO:14432).

236. (New) The composition of claim 235, wherein said peptides form a fusion protein.
237. (New) The composition of claim 235, which comprises a carrier.
238. (New) A pharmaceutical composition comprising the composition of claim 235 and a carrier.
239. (New) The composition of claim 235, which comprises a liposome.
240. (New) A vaccine comprising the composition of claim 235 and a physiologically acceptable diluent.

241. (New) An isolated peptide 10 amino acids in length, comprising an oligopeptide selected from the group consisting of:

SLLNATDIAV (SEQ ID NO:14293) and

KLTPLCVTL (SEQ ID NO:14432).

242. (New) The peptide of claim 241, which consists of the oligopeptide KLTPLCVTL (SEQ ID NO:14432).

243. (New) The peptide of claim 241, which is fused to a T helper peptide.

244. (New) The peptide of claim 241, which is fused to spacer or linker amino acids.

245. (New) The peptide of claim 241, which is fused to a carrier.

246. (New) The peptide of claim 241, which is linked to a lipid.

247. (New) A fusion protein comprising the peptide of claim 241.

248. (New) A homopolymer of the peptide of claim 241.

249. (New) A heteropolymer of the peptide of claim 241 and a different peptide.

250. (New) A composition comprising the peptide of claim 241 and a carrier.

251. (New) A pharmaceutical composition comprising the peptide of claim 241 and a carrier.

252. (New) A composition comprising the peptide of claim 241 and a liposome.

253. (New) A vaccine comprising the peptide of claim 241 and a physiologically acceptable diluent.

254. (New) A composition comprising the peptide of claim 241, and one or more second peptides.

255. (New) The composition of claim 254, wherein said peptides form a fusion protein.

256. (New) The composition of claim 254, which comprises a carrier.

257. (New) A pharmaceutical composition comprising the composition of claim 254 and a carrier.

258. (New) The composition of claim 254, which comprises a liposome.

259. (New) A vaccine comprising the composition of claim 254 and a physiologically acceptable diluent.

260. (New) The composition of claim 254, wherein said one or more second peptides is less than 15 amino acids in length and comprises an oligopeptide selected from the group consisting of:

VLAEAMSQV (SEQ ID NO:14422)

ILKEPVHGV (SEQ ID NO:14427)

EVNIVTDSQY (SEQ ID NO:14457)

FRDYVDRFY (SEQ ID NO:14458)

VIYQYMDDL Y (SEQ ID NO:14459)

VTVL DVGDAY (SEQ ID NO:14460)

IYQEPFKNL (SEQ ID NO:14461)

TYQIYQEPF (SEQ ID NO:14463)
RYLKDQQLL (SEQ ID NO:14466)
KVYLA WVPAHK (SEQ ID NO:14439)
KIQNFRVYYR (SEQ ID NO:14440)
MTKILEPFR (SEQ ID NO:14441)
AIFQSSMTK (SEQ ID NO:14442)
VTVYYGVPVWK (SEQ ID NO:14445)
QMAVFIHNFK (SEQ ID NO:14438)
QVPLRPMTYK (SEQ ID NO:14446)
SLLNATDIAV (SEQ ID NO:14293) and
KLTPLCVTL (SEQ ID NO:14432).

261. (New) The composition of claim 260, wherein said peptides form a fusion protein.

262. (New) The composition of claim 260, which comprises a carrier.

263. (New) A pharmaceutical composition comprising the composition of claim 260 and a carrier.

264. (New) The composition of claim 260, which comprises a liposome.

265. (New) A vaccine comprising the composition of claim 260 and a physiologically acceptable diluent.
